THE TRUE HUMAN CONDITION

Intro

My article began as a very short 250 words inspired by astrophysicist Jeff Hester's (pro-evolution) pages on entropy (Astronomy magazine - Oct. and Nov. 2017 -

http://www.astronomy.com/magazine/jeff-hester/2017/09/entropys-rainbow

and

http://www.astronomy.com/magazine/jeff-hester/2017/10/entropy-redux).

The letter I wrote pointed out evolution's pluses (eg adaptations) and minuses (regarding origins). It went on to speak of a human, scientific, entirely natural explanation for what is called God. It proposes that the true human condition after death and before birth is as a member of the Elohim - a name used for God in the Old Testament which, according to World Book Encyclopedia, means the PLURAL MAJESTY OF THE ONE GOD. This led to a few hundred more words about why some people call an entirely natural process "supernatural". I speculate that it must be because of the applications in thousands of years of finding a successful theory of quantum gravity (union of quantum mechanics and Einstein's theory of gravity - general relativity). Like quantum mechanics and gravitation, those apps would include all space and all time, and would undoubtedly be as mysterious to us as our technology would initially be to the builders of Egypt's first pyramids. In years past, the denial of divine beings by science may have been logical. But times sometimes change radically. Such a paradigm shift seems to be upon us now, with the recent discovery of gravitational waves and the anticipation of quantum gravity. In changing times, scientists and philosophers and everyone must always keep open minds. Of course, proposing that the human condition after death and before birth is as a member of the Elohim means that humans of the far distant future must be capable of the creation attributed to God by many people throughout the centuries. Therefore, a subsection entitled **Creation Of The Infinite, Eternal Cosmos Using Electronic BITS, Pi And Imaginary Time** has been added to the end of this article.

Biological Revolution, Gravitation, and Brouwer Fixed Point Theorem's Use In Future Space-Time Travel

I've enjoyed Jeff Hester's entropy (and pro-evolution) articles immensely. They're extremely informative! I have a question about my wristwatch, though. Assuming it's less complex than the brain and body of its owner (which evolved, science tells me), why didn't atoms of metal and quartz come together to form the watch without the intelligent design of humans? Dr. Hester's 2nd article was in the Nov. issue featuring a story on gravitational waves. After thousands of years of further progress, scientists may not only be detecting these waves from collisions between black holes or neutron stars, but may also be detecting weaker waves on terrestrial and atomic scales. They may also be manipulating them, rather like the way electromagnetic waves are exploited today. General Relativity says gravity doesn't exist in space-time but IS space-time. Manipulating gravity is therefore manipulation of space-time and will lead to presently unbelievable revolutions in space travel and so-called time travel (including travel millions of years into the uninhabited past).

Early last century, the Dutch mathematician and philosopher Luitzen Egbertus Jan Brouwer (1881-1966) had one of the most useful theorems in mathematics named after him - the amazing topological result known as the Brouwer Fixed Point Theorem. "In dimension three, Brouwer's theorem says that if you take a cup of coffee, and slosh it around, then after the sloshing there must be some point in the coffee which is in the exact spot that it was before you did the sloshing (though it might have moved around in between). Moreover, if you tried to slosh that point out of its original position, you can't help but slosh another point back into its original position. More formally the theorem says that a continuous function from an N-ball into an N-ball must have a fixed point. Continuity of the function is essential (... if you slosh discontinuously, then there may not be (a) fixed point)." Su, Francis E., et al. "Brouwer Fixed Point Theorem." *Math Fun Facts*. <http://www.math.hmc.edu/funfacts>. From <https://www.math.hmc.edu/funfacts/ffiles/20002.7.shtml?>

Translating this into a possible method of future spacetime travel - take the universe and "slosh it around" (this refers to gravitational waves of varying strengths constantly moving in different directions in space as well as time). Assume the point which is in the exact spot after the sloshing as it was before the sloshing is a point an orbiting spaceship might occupy near Mars - this orbital point might be encoded using the BITS (BInary digiTS, 1's and 0's) of electronics. Since the point might have moved around thanks to the Brouwer Fixed Point Theorem, it could be encoded to pick up a spaceship orbiting Earth and quickly transport it to Mars orbit (greatly reducing astronaut/cosmonaut exposure to radiation, bone and muscle wasting, etc.) Sloshing (continuously manipulating gravitational waves) so that the point which is in the exact spot after the sloshing as it was before the sloshing is part of the Andromeda galaxy would conceivably reduce travel time to a star in that galaxy by millions of years. The journeys - to Andromeda or Mars or any other spot in space or the time which can't be separated from space - wouldn't depend on slow rocket power but on fast electronics and, as will be seen in **Quantum Gravity and Elohim**, gravitational waves that can travel backwards in time, acting instantly across the universe and being entangled with any selected point in space or time.

If we combine these revolutions with the unimaginable biotechnology and genetic engineering of centuries to come; isn't it conceivable that plants, animals and even humans are the product of entirely natural* intelligent design by humanity of the distant future? Making production a two-way process is the fact that humans of the distant future rely on the reproductive instincts of past and present men and women for their existence. Evolution would always exist in the forms of adaptation and of modification to anatomy/physiology, but it would not explain origins.

Quantum Gravity and Elohim

* How does an "entirely natural" process end up being called "supernatural" by some people? When combined with the Wheeler–Feynman absorber theory from last century, as well as the more recent transactional interpretation of quantum mechanics (TIQM); the universal gravitational

field (space-time) might possibly combine with quantum mechanics to form the unified field of quantum gravity.

For example - The existence of both advanced waves (which travel backwards in time) and retarded waves (which travel forwards in time) as admissible solutions to James Clerk Maxwell's equations about electromagnetism was explored in the Wheeler–Feynman absorber theory last century, as well as in the more recent transactional interpretation of quantum mechanics (TIQM). Einstein's equations say gravitational fields carry enough information about electromagnetism to allow Maxwell's equations to be restated in terms of these gravitational fields. This was discovered by the mathematical physicist George Yuri Rainich - "Transactions of the American Mathematical Society" 27, 106 - Rainich, G. Y. (1925). Therefore, gravitational waves also have a "retarded" component and an "advanced" component. They can travel forward or backward not only in space, but in time too.

17th century scientist Isaac Newton's idea of gravity acting instantly across the universe could be explained by gravity's ability to travel back in time, and thereby reach a point billions of light years away not in billions of years, but in negative billions-of-years. That is; the negative/advanced component of a gravitational wave would already be at its destination as soon as it left its source, and its journey is apparently instant. Instantaneous effect over large distances is known as quantum mechanics' entanglement and has been repeatedly verified experimentally.

'Physicists now believe that entanglement between particles exists everywhere, all the time, and have recently found shocking evidence that it affects the wider, "macroscopic" world that we inhabit.'

["The Weirdest Link" (New Scientist, vol. 181, issue 2440 - 27 March 2004, page 32 - online at http://www.biophysica.com/QUANTUM.HTM].

Though the effect is measured for distances in space, the inseparability of space and time means that moments of time can become entangled too, as "Quantum Entanglement in Time" by Caslav Brukner, Samuel Taylor,

Sancho Cheung, Vlatko Vedral (http://www.arxiv.org/abs/quant-ph/0402127) showed. If the retarded (forwards) wave component travels in positive space, the advanced (backwards) component corresponds to an equal amount of negative distance. The forwards and backwards movement in time can potentially cancel to produce a quantum (and macroscopic) entanglement that eliminates the need for the Big Bang's and Cosmic Inflation's solution that the universe is roughly the same

everywhere on large scales because everything was once in contact in a tiny space.

Many scientists have said mathematics is a universal language because 1+1=2 no matter who you are. The trend in modern physics is towards a unified theory of the universe - starting with the unified theories of the 20th century (notably Einstein's) and extending to string theory and quantum gravity. What happens if a person in, say, the 24th century is raised believing in a unified theory that has implications in physical terms for everything in space-time? Would he or she think there is actually only one thing? Would (s)he think it's a mistake to add one apparently separate thing to another apparently separate thing to produce two, and that such addition is merely the result of the way the body's senses operate? (Our whole mathematical system is ultimately based on the idea that 1+1=2, and would therefore be incomplete in a unified universe.)

"Many religions, from Hinduism to Gnostic Christianity to Mormon doctrine, teach that – as impious as it may sound – it is the goal of humans to become gods." ["Pale Blue Dot – A Vision of the Human Future in Space" by Carl Sagan - Headline Book (1995, p. 382)]. Learning to link with the unified field of quantum gravity would give people in the far future abilities like omnipresence (being everywhere and everywhen in space-time), omniscience (knowing everything) and omnipotence (being able to do anything). Incomprehensible to today's population as being entirely natural, these qualities would be dubbed supernatural. As support for the naturalness of what is called God, the following is offered: In the TV program "Custom Universe – Finetuned For Us?" (Australian Broadcasting Corporation's "Catalyst", August 29 2013), Dr. Graham Phillips reported

that "the physicist and writer Paul Davies thinks the universe is indeed fine-tuned for minds like ours. And who fine-tuned it? Not God but minds from the future, perhaps even our distant descendants, that have reached back through time ... and selected the very laws of physics that allow for the existence of minds in the first place. Sounds bizarre, but quantum physics actually allows that kind of thing." The billions upon billions of possessors of omnipotence, omniscience and omnipresence could be described by the word Elohim - a name used for God in the Old Testament which, according to World Book Encyclopedia, means the PLURAL MAJESTY OF THE ONE GOD.

When his engineer friend Michele Angelo Besso died, Albert Einstein wrote a letter of condolence to the Besso family, including his now famous quote: "Now he has departed from this strange world a little ahead of me. That means nothing. People like us, who believe in physics, know that the distinction between past, present and future is only a stubbornly persistent illusion." This suggests the following interpretation of his statement - if someone is alive in what we call the present, they must continue to be alive at any point in the future, all points of which have no actual separation from the present (though that future life would not be in the form we know). So there would be life after death. If all times in the past are united with the present, there must also be life before conception (in a different form). It seems very plausible that, after death and before birth, a human exists as a member of the Elohim - humans from the distant future who have learned how to affect all space and all time, including our past and present. Since anything and everything is possible for such a being, we could either exist eternally in that condition or choose to be born on Earth and have a human life. The latter would give us new perspective and experiences. It would also allow us to directly contribute to the eventual rise of Elohim civilization - perhaps by adding something to some field of knowledge or technology (this might oneday lead to the ability to choose eternal life as a human), perhaps by ensuring that the human race continues into new generations, perhaps by sharing with - and otherwise helping - whomever we can.

Creation Of The Infinite, Eternal Cosmos Using Electronic BITS, Pi And Imaginary Time

Imaginary time - which is as real to physicists and mathematicians as our familiar real time - obtained its name because it was originally a purely mathematical representation of time which appears in some approaches to the special relativity and quantum mechanics theories developed in the early decades of last century. We can picture imaginary time in the following way. One can think of ordinary, real, time as a horizontal line. On the left, there's the past - and on the right, the future. But there's another kind of time in the vertical direction. This is called imaginary time (it's described with imaginary numbers such as i which equals $\sqrt{-1}$).

As mathematical physicist Paul Davies writes in The real gleam in the imaginary 'i' (20 FEBRUARY 2017 -

https://cosmosmagazine.com/mathematics/the-gleam-in-the-i) - "The name has stuck, even though today we accept imaginary numbers are just as real as real numbers." It was, I think, in the next issue of Cosmos magazine that Prof. Davies wrote that imaginary time is just as real as the time we're familiar with. Professor Itzhak Bars of the University of Southern California in Los Angeles says, "one whole dimension of time and another of space have until now gone entirely unnoticed by us". ("A Two-Time Universe? Physicist Explores How Second Dimension of Time Could Unify Physics Laws" - May 15, 2007 By Tom Siegfried (Read more at:

https://m.phys.org/news/2007-05-two-time-universe-physicist-explores-dimension.html). Could Prof. Bars' second dimension of space be imaginary (in the sense of $i = \sqrt{-1}$) space which is united with imaginary time the same way ordinary space and time are joined? And in the unification of a quantum gravity universe, the real and imaginary would be connected.

Like the surface of the Earth, imaginary time has no boundaries (you can go around the world without falling over any edge) but, also like Earth, it is finite unless pi or another infinite number is incorporated into each and

every part - numbers could be encoded into parts using the BITS (BInary digiTS, 1's and 0's) of electronics. Dr. Andrea Alberti of the Institute of Applied Physics of the University of Bonn says, "Quantum mechanics allows superposition states of large, macroscopic objects. But these states are very fragile, even following the football with our eyes is enough to destroy the superposition and makes it follow a definite trajectory." ("Atoms can be in two places at the same time" - January 20, 2015 - University of Bonn - https://m.phys.org/news/2015-01-atoms.html)

So although we only see one Earth; it's within the realm of possibility that it, and everything else, is not finite but is infinite and superposed and actually existing in more than one place - even everywhere in spacetime. This may be what happens when imaginary time teams up with incorporation of infinite numbers to remove boundaries - in this case, between existence in one location and existence in more than one spot.* This makes the universe infinite and, because space cannot be separated from time but forms one space-time, eternal.

*The existence of Earth and everything else in every spot and time is consistent with a never-ending number of Cosmic DVD's extending infinitely in every possible direction, and any object's position not being restricted to any one DVD. This condition would not be accessible to present-day humanity since consciousness is comparable to illumination by the player's laser, and people today have limited concepts of space-time compared to people living centuries from now. A member of the omnipresent Elohim could instantly traverse the space-time from, say, Earth of a billion years ago to a faraway galaxy billions of years in the future. The above need not violate Pauli's exclusion principle which says that two similar particles of matter cannot have both the same position and the same velocity. If electrons on different Cosmic DVDs occupy the same position, they must have different velocities. This strange state could give rise to the idea of a multiverse - other universes with different laws of physics existing alongside ours.

A model of the cosmos might be built that consists of a never-ending number of (Cosmic) DVD's extending infinitely in every possible direction. Entanglement in the simulation is unable to remain separate from the quantum-mechanical and macroscopic entanglement existing in our perceived reality because imaginary time removes all boundaries between the two universes. They naturally merge, influencing each other and becoming one. The poorly-named imaginary time of physics and mathematics unites with pi (both are necessary to generate an infinite universe - alone, unbounded imaginary time is finite). Also, their union with the future-simulation/presently-perceived-as-exclusively-real hybridization of the universe frees it of boundaries and makes it infinite/eternal.

Professor Stephen Hawking says that boundaries exist in real time but don't exist in imaginary time [Hawking, S. (1988) "A Brief History of Time", p.139. Bantam Press]. There really are boundaries in real time and it must hypothetically be possible to step outside the universe if only real time exists. But when so-called imaginary time also exists, it is not possible to step outside the universe because the boundaries simply aren't there and the universe has no end or start (neither in space nor in time). Only one universe can then exist, and there is no multiverse.
